

APPLICANT: AVNI, Dov (et al )  
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**Amendments to the Claims:**

Please amend the claims as follows:

1-80 (Cancelled)

81. (New) An in vivo imaging device comprising:

a light source;

an imager; and

a controller, wherein the controller is to, during an imaging period, operate the light source, record the amount of light reflected to the imaging device, and control the image gain level of the imager.

82. (New) The device of claim 81 comprising at least one light measuring element.

83. (New) The device according to claim 82 wherein said at least one light measuring element includes at least a portion of a set of pixels.

84. (New) The device according to claim 82 wherein the at least one light measuring element includes at least one photo detector.

85. (New) The imaging device of claim 81, wherein said controller is to control at least one parameter selected from the group consisting of image gain level, illumination duration and illumination intensity.

86. (New) An in vivo imaging device comprising:

a light source;

an imager; and

a controller, wherein the controller is configured to detect problematic pixels in said imager, and define said problematic pixels as non-functional.

87 (New) The device of claim 86, wherein said imager is configured to provide an exposure that is of a shorter duration than typically required for saturation of a functional pixel.

88. (New) The device of claim 86, wherein said controller is to detect at least one pixel that reflects a saturation level above a threshold saturation level.

89. (New) The device of claim 86, wherein the device is a swallowable capsule.

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90. (New) A method for operating an in vivo imaging device including at least one light source, the method comprising:
- during an imaging period, operating at least one light source;
  - at a sampling instance, recording the amount of light reflected to at least one light measuring element; and
  - comparing an amount of light recorded at at least one sampling instance within said imaging period to a determined light saturation threshold; and
  - controlling the imaging device's gain factor in relation to the difference between said amount of light recorded and said light saturation threshold.
91. (New) The method of claim 90, comprising controlling the operation of the light source in relation to the difference between said amount of light recorded and said light saturation threshold.
92. (New) An in vivo imaging device comprising:
- a light source;
  - an imager; and
  - a controller, wherein the controller is adapted to operate the light source to provide dark frames at determined frame intervals and record the amount of light reflected to the imager during said dark frame.
93. (New) The imaging device of claim 92, wherein said dark frame includes a frame wherein a substantially inadequate amount of light is exposed by said light source.
94. (New) The imaging device of claim 92, wherein said controller is capable of determining the location of the device according to said amount of light reflected to the imager during said dark frame.
95. (New) The imaging device of claim 92, wherein said location of the device is determined to be at least one environment selected from the group consisting of outside the body, inside the body, in the mouth, in the throat, in the esophagus, and in the stomach.
96. (New) The imaging device of claim 92, wherein the controller is configured to change the device operation mode in relation to said amount of light.

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97. (New) A method for changing the operation mode of an in vivo device, the method comprising:
- measuring at least one environment parameter in at least one environment surrounding the device;
  - when an environmental change is determined, changing the operating mode of the device.
98. (New) The method of claim 97, wherein said environmental change is at least one change selected from the group consisting of temperature change, pH level change and light level change.
99. (New) The method of claim 97, wherein a controller determines when a significant environmental change is determined.
100. (New) A method for changing the operation mode of an in vivo device, the method comprising:
- measuring at least one environment parameter in at least one environment surrounding the device, using at least one environment measuring tool; and
  - when an environmental change is determined, changing the operating mode of the device.